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ABSTRACT

In a preferred embodiment, an engine coolant crossover assembly includes a crossover conduit member carrying an integral liquid cooled alternator and liquid cooled exhaust gas recirculation valve. The integration of one or both of these parts into the coolant crossover eliminates many parts from the total assembly. These parts include; attachment brackets, coolant hoses, hose clamps, cast mounting blocks, coolant tubes and attachment bolts. Reduction of these parts reduces system costs, assembly time, mass and potential coolant leak paths. A temperature sensor and a thermostat housing may also be included in the crossover assembly. The assembly may also be made part of an intake manifold for an integrated air fuel module of a V-type engine.

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